

develops into a flowering stem; after flowering this dies, but at its base two opposite buds have been formed, only one of which develops the following season, and this manner of growth is continued from season to season.

12. In *Viburnum nudum* the bud scales are composed of the bases of leaves, their morphological nature becoming evident by the development of leafy tips or blades in spring.

(Fig. 6, outer scale; fig. 7, inner scale.) These leafy tips are formed on the scales of both leaf and mixed buds, but owing to the falling off of the more evident broader scales early in the spring while their blades are still quite small, and their consequent non-preservation in herbaria, the fact is generally overlooked. The development of the base here before the tip of the leaf forms an exception to the usual rule that the development of



Fig. 6



Fig. 7

leaves proceeds from their tips to the base.—AUG. F. FOERSTE, Dayton, Ohio.

Teratological Notes.

1. *A Botrychium with three fertile segments*—Among the numerous specimens of *B. Lunaria*, Swartz, sent by Mr. S. M. Turner from Afognak Island, Alaska, there is one that has two secondary fertile segments standing on the main fertile segment of the frond. They start from it near its commencement, and are all nearly the same size. All appear fully developed, bearing about the usual number of sporangia.

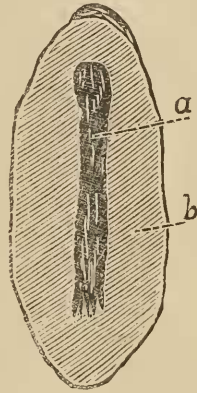
2. *Ludwigia alternifolia with a broad stem*.—During the past August I found a specimen of this species in which the upper half of the stem was only about one eighth of an inch thick, while in breadth it measured from one-half to an inch. It sent out, at the sides, short flower bearing branches. The plant grew in a swamp, was nearly four feet high, and otherwise thrifty.

3. *Ranunculus repens with flat peduncles*.—During the past summer I found several examples of this species in which the peduncle was flat, and bearing on its top an irregular mass of petals.

4. *Two Oaks grown together*.—Within three miles of Mt. Carmel (Ill.) there is an Oak (*Q. palustris*, Du Roi), which commences with two roots; these are so close together and intergrown as to appear as one at the surface of the ground. The

two bodies, however, start separately and are several inches apart for nearly ten feet, when they unite and form a single straight trunk, making, in all a tree nearly seventy feet high. The two trunks, where they are separate, are about six inches in diameter, round, straight, and appear to be solid and perfect.

5. *Blighted Hickory-nuts* —During the winter of 1881-2, I found a number of what I take to be blighted hickory-nuts. Besides those that I found several were brought to me as matters of curiosity, and all were similarly deformed. The accompanying sketch will probably help to convey the best idea of them. The central part (a) is hard and solid and is imbedded in a cavity which is just large enough to contain it. It is everywhere free, except at the lower end, from which it appears to have grown. I take it to be the kernel lignified. The endocarp (b) is thicker than usual, solid, and very hard. The nut appears to be the proper length, but too slender. All the examples I saw I took to be fruit of *C. sulcata*. While I have cracked a goodly number of hickorynuts every winter for nearly thirty years, this was the only season in which I noticed this deformity. May it not be that the long drought during the previous summer, which continued from the last weeks in June to the first of September, was the cause of this growth?



6. *A Butternut imbedded in the solid wood of an ash tree.*—While waiting in the office of my friend, Dr. A. J. McIntosh, I was shown a piece of ash wood in which was firmly imbedded a veritable butternut. The wood that had formed around it appeared to be healthy and firm when cut. The exocarp was gone, but the wood in its growth had fitted itself into the interstices of the endocarp. The Doctor, who is a Jacksonian Democrat, explains it in this wise: During war times one of the "butternuts" was so closely pursued by a "home guard" that he took the first hole he could find, and this happened to be a wood-pecker's hole in an ash tree.

7. *Double Tulips* —Several years since I was invited by a lady friend to call and see some double tulips. Before starting, I stated that I did not think they could be doubled more than one and one-half times, thinking that the six stamens and three pistils had been developed into petal-like organs. But to my surprise I found the tulips as double as any rose. I was at a loss to

explain the condition, until after examining the scape, which I found to be leafy, especially at the top, and the upper leaves took on the shape and color of sepals and petals. I can not believe that this was a deformity, the result of an injury, as there were several plants in the same bed in the same condition. I would like to ask, is the conversion of leaves into petal-like organs a common method by which flowers are doubled?—J. SCHNECK, *Mt. Carmel, Ill.*

GENERAL NOTES.

Hibiscus Moscheutos and H. roseus.—Dr. J. Guillaud, of Bordeaux, sends a pamphlet containing his investigations resulting in the identification of *Hibiscus roseus* of Thore,—a species supposed to be indigenous to the southeastern coast of France, also found in Italy,—with our marsh Hibiscus. He is not aware that the same identification has been made by Mr. Daydon Jackson, and published a year or two ago in the 19th volume of the *Journal of the Linnæan Society*, London. Dr. Guillaud has had the advantage of seeing the two plants growing spontaneously, ours in the neighborhood of New York, the other in the marshes of the Landes. *H. roseus* has also been found in Northern Italy, in the marshes of the Po and lagunes of the Adriatic; and, according to Dr. Guillaud, specimens have been received from Asia Minor, but no mention is made of it in Boissier's *Flora Orientalis*. Is this species indigenous to Europe as well as to the Atlantic coast of North America? Is it a survival from the time when the floras of Europe and of Eastern America had more common elements than they now have? Or has it somehow been conveyed across the Atlantic; and if so, whether at some early period or within historic times? Questions not easily answered. If the first, then this plant, like a few others that might be named, is in Europe what *Convallaria majalis*, *Littorella lacustris*, *Marsilea quadrifolia*, *Scotopendrium*, and perhaps *Calluna*, are in North America. In favor of the second view, and even of a late and casual introduction, it is to be said (as Dr. Guillaud notes) that Thore found the plant on the coast of France only at the beginning of this century; that it was unknown to Tournefort, who botanized around Bayonne in the autumn of 1688; that the plant has disappeared from the particular station where Thore found it and where it was said to abound; and that it is now more rare than formerly. Its spread from the Atlantic coast to that of the Adriatic, may be owing to the carriage of seeds by marsh-birds. Indeed, Dr. Guillaud thinks it may have been brought to Europe by sea-birds. On the other hand, since it is now found in the district near Mantua, he quotes the lines in Virgil's *Eclogues* in which the stems of *Hibiscus* are twice mentioned, in a way by no means *mal à propos*; but he thinks they might as well apply to Marsh-mallow.

It appears that the specific name *Moscheutos* came to Linnæus through Cornuti from a "Rosa Moscheutos" of Pliny, some kind of Rose-mallow, we may suppose. Since the two Linnæan species are clearly one, it is a pity that the